N This revision described below has be		F REVISION (NOR)		1. DATE (YYMMDD) 94-07-05	Form Approved OMB No. 0704-0188
Public reporting burden for this collect the time for reviewing instructions, so data needed, and completing and revi this burden estimate or any other asp for reducing this burden, to Departm	2. PROCURING ACTIVITY NO.				
for Information Operations and Repo 22202-4302, and to the Office of Mar 20503. PLEASE DO NOT RETURN COMPLETED FORM TO THE GOV PROCURING ACTIVITY NUMBER I	3. DODAAC				
4. ORIGINATOR		b. ADDRESS (Street, City, State Defense Electronics Supply Ce		5. CAGE CODE 67268	6. NOR NO. 5962-R225-94
a. TYPED NAME (First, Middle Initial Last)	,	1507 Wilmington Pike Dayton, OH 45444-5270		7. CAGE CODE 67268	8. DOCUMENT NO. 5962-89523
9. TITLE OF DOCUMENT MICROCIRCUITS, MEMORY, DIGIT		S 64 V 4	10. REVISION LET	TTER	11. ECP NO. N/A
PARALLEL FIFO, MONOLITHIC SIL		5, 64 ^ 4	a. CURRENT A	b. NEW B	N/A
12. CONFIGURATION ITEM (OR S'	YSTEM) T	O WHICH ECP APPLIES			
13. DESCRIPTION OF REVISION					
Sheet 1: Revisions Itr column; add Revisions description column Revisions date column; add " Rev status of sheets; For she	; add "Cha 94-07-05".		?-R225-94".		
,	•	OS parallel FIFO" and replace with "6	64 x 4 CMOS parallel	FIFO".	
Sheets 1 and 2: Revision level bloc	k; add "B".				
44 THIS SECTION FOR COVERNME	AENT LIGE	- ONLY			
14. THIS SECTION FOR GOVERNM		: ONLY ument supplemented by the NOR ma	ay bo used in manufac	aturo.	
\	ŭ	ument must be received before manu	•		
` '		master document shall make above		· ·	
b. ACTIVITY AUTHORIZED TO APP				First, Middle Initial, Las	t)
DESC-ELDS			Michael A. Frye		
d. TITLE		e. SIGNATURE		f. DATE SIGNED (YYMMDD)	
Chief, Microelectronics Branch		Michael A. Frye		94-07-05	
15a. ACTIVITY ACCOMPLISHING REVISION		b. REVISION COMPLETED (Signary L. Gross	gnature)	c. DATE SIGNED (YYMMDD) 94-07-05	
DESC-ELDS				<u> </u>	

								I	REVIS	IONS										
LTR						DESCF	RIPTIO	N					D/	DATE (YR-MO-DA)			APPROVED)
Α	Upd 08.	lated b	oilerp	plate. Added device types 05 - anges throughout.				5 -		94-04			4-29		M. A. Frye					
REV SHEET	Δ	Δ																		
SHEET	A 15	A 16																		
SHEET REV SHEET	15	A 16		REV	V		A	A	A	A	A	A	A	A	A	A	A	A	A	A
SHEET REV SHEET REV STATU	15 JS			RE\ SHE			A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	A 9	A 10	A 11	A 12	A 13	A 14
SHEET	15 JS			SHE				ł			5	6	7 NSE E	8 ELE C 1	9 RONI	10	11 JPPLY	12	13	
SHEET REV SHEET REV STATU OF SHEETS PMIC N/A STANU MIL	JS S DARE	16 DIZEI	D	SHE PREI Ker	EET PAREI	BY		ł			5	6	7 NSE E	8 ELE C 1	9 RONI	10	11 JPPLY	12	13	
SHEET REV SHEET REV STATU OF SHEETS PMIC N/A STANE MIL DR THIS DRAW FOR 1	DARE LITAR AWIN	DIZEI RY IG		SHE PREI Ker CHEC Cha	PAREI n Rice	BY eusing D BY		ł		4 MIC CM	5 ROCI	6 DEFE	7 NSE E	8 ELECTAYTON	9 FRONI I, OHI	10 ICS SU O 454	11 JPPLY	12	13	
SHEET REV SHEET REV STATU OF SHEETS PMIC N/A STANE MIL DR THIS DRAW FOR 1	JS S DARE LITAR AWIN ING IS A VING IS A VING IS A VING IS A VING IS A VING IS A	DIZEI RY IG	BLE	SHE PREI Ker CHEC Cha	PAREIN RICE CKED CKED Arries ROVEI CHARACTER ROVEI CHARACTER WING	BY eusing D BY	1 OVAL D	2 DATE		4 MIC CM	FROCI OS, 6- NOLIT	RCUI 4 X 4 FHIC	7 NSE E DA	8 ELECTAYTON IEMO	9 FRONI I, OHI	10 ICS SU O 454	JPPLY 144	12	13	14

1. SCOPE

- 1.1 Scope. This drawing describes device requirements for class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices".
 - 1.2 Part or Identifying Number (PIN). The complete PIN shall be as shown in the following example:



1.2.1 <u>Device type</u>. The device type(s) shall identify the circuit function as follows:

Device type	Generic number	Circuit function	Shift in/out rate
01,05	(See 6.6)	64 x 5 CMOS parallel FIFO	10 MHz
02,06	(See 6.6)	64 x 5 CMOS parallel FIFO	15 MHz
03,07	(See 6.6)	64 x 5 CMOS parallel FIFO	25 MHz
04,08	(See 6.6)	64 x 5 CMOS parallel FIFO	35 MHz

1.2.2 <u>Case outline(s)</u>. The case outline(s) shall be as designated in MIL-STD-1835 and as follows:

Outline letter	Descriptive designator	<u>Terminals</u>	Package style
E	GDIP1-T16 or CDIP2-T16	16	Dual-in-line package
2	CQCC1-N20	20	Square leadless chip carrier

1.2.3 <u>Lead finish</u>. The lead finish shall be as specified in MIL-STD-883 (see 3.1 herein). Finish letter "X" shall not be marked on the microcircuit or its packaging. The "X" designation is for use in specifications when lead finishes A, B, and C are considered acceptable and interchangeable without preference.

1.3 Absolute maximum ratings.

Terminal voltage with respect to ground	-0.5 V dc to +7.0 V dc 50 mA -65° C to +150° C 1.0 W +260° C See MIL-STD-1835 +175° C
Junction temperature (T _J)	+175°C

1.4 Recommended operating conditions.

Supply voltage (V _{CC}) Supply voltage (GND) Input high voltage (V _{IL}) Input low voltage (V _{IL}) Input low voltage (V _{IL})	4.5 V dc to 5.5 V dc 0 V dc 2.0 V dc minimum 0.8 V dc maximum <u>2</u> /
Case operating temperature range (T _C)	-55°C to +125°C

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 2

 $[\]overline{1/}$ Must withstand the added P_D due to short-circuit, test e.g., I_{OS}. $\overline{2/}$ -1.5 V undershoots are allowed for 10 ns once per cycle.

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, bulletin, and handbook. Unless otherwise specified, the following specification, standards, bulletin, and handbook of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

MILITARY

MIL-I-38535 - Integrated Circuits Manufacturing, General Specification for.

STANDARDS

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.

MIL-STD-973 - Configuration Management. MIL-STD-1835 - Microcircuit Case Outlines.

BULLETIN

MILITARY

MIL-BUL-103 - List of Standardized Military Drawings (SMD's).

HANDBOOK

MILITARY

MIL-HDBK-780 - Standardized Military Drawings.

(Copies of the specification, standards, and bulletin required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing shall take precedence.

3. REQUIREMENTS

- 3.1 Item requirements. The individual item requirements shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein. Product built to this drawing that is produced by a Qualified Manufacturer Listing (QML) certified and qualified manufacturer or a manufacturer who has been granted transitional certification to MIL-I-38535 may be processed as QML product in accordance with the manufacturers approved program plan and qualifying activity approval in accordance with MIL-I-38535. This QML flow as documented in the Quality Management (QM) plan may make modifications to the requirements herein. These modifications shall not affect form, fit, or function of the device. These modifications shall not affect the PIN as described herein. A "Q" or "QML" certification mark in accordance with MIL-I-38535 is required to identify when the QML flow option is used.
- 3.2 <u>Design, construction, and physical dimensions</u>. The design, construction, and physical dimensions shall be as specified in MIL-STD-883 (see 3.1 herein) and herein.
- 3.2.1 <u>Terminal connections</u>. The terminal connections shall be as specified on figure 1.
- 3.2.2 Case outlines. The case outlines shall be in accordance with 1.2.2 herein.
- 3.3 <u>Electrical performance characteristics and postirradiation parameter limits</u>. Unless otherwise specified herein, the electrical performance characteristics and postirradiation parameter limits are as specified in table I and shall apply over the full case operating temperature range.
- 3.4 <u>Electrical test requirements</u>. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 3

- 3.5 <u>Marking</u>. Marking shall be in accordance with MIL-STD-883 (see 3.1 herein). The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's PIN may also be marked as listed in MIL-BUL-103 (see 6.6 herein).
- 3.5.1 <u>Certification/compliance mark</u>. The compliance mark for device class M shall be a "C" as required in MIL-STD-883 (see 3.1 herein). The certification mark for device classes Q and V shall be a "QML" or "Q" as required in MIL-I-38535.
- 3.6 <u>Certificate of compliance</u>. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.6 herein). The certificate of compliance submitted to DESC-EC prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-STD-883 (see 3.1 herein) and the requirements herein.
- 3.7 <u>Certificate of conformance</u>. A certificate of conformance as required in MIL-STD-883 (see 3.1 herein) shall be provided with each lot of microcircuits delivered to this drawing.
- 3.8 <u>Notification of change</u>. Notification of change to DESC-EC shall be required in accordance with MIL-STD-883 (see 3.1 herein).
- 3.9 <u>Verification and review</u>. DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.
 - 4. QUALITY ASSURANCE PROVISIONS
 - 4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-STD-883 (see 3.1 herein).
- 4.2 <u>Screening</u>. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:
 - a. Burn-in test, method 1015 of MIL-STD-883.
 - (1) Test condition D or E. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.
 - (2) $T_A = +125^{\circ} C$, minimum.
 - b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.
- 4.3 <u>Quality conformance inspection</u>. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.
 - 4.3.1 Group A inspection.
 - a. Tests shall be as specified in table IIA herein.
 - b. Subgroups 5 and 6 of table I of method 5005 of MIL-STD-883 shall be omitted.
 - c. Subgroup 4 (C_{IN} and _{COUT} measurement) shall be measured only for the initial test and after process or design changes which may affect capacitance. Sample size is 15 devices with no failures, and all input and output terminals tested.
 - d. Subgroups 7 and 8 shall include verification of the truth table.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 4

Test	Symbol	Conditions	Group A	Device	Limits		Unit
		-55° C ≤ T _C ≤ +125° C V _{CC} = 4.5 V to 5.5 V unless otherwise specified	subgroups	types	Min	Max	
Input low current	կլ	$0 \text{ V} \le \text{V}_{\text{IN}} \le 5.5 \text{ V}, \text{V}_{\text{CC}} = 5.5 \text{ V}$	1, 2, 3	All	-10		μΑ
Input high current	IН	$0 \text{ V} \le \text{V}_{\text{IN}} \le 5.5 \text{ V}, \text{V}_{\text{CC}} = 5.5 \text{ V}$	1, 2, 3	All		+10	μA
Output low voltage	V _{OL}	V _{CC} = 4.5 V, I _{OL} = 8.0 mA V _{IL} = 0.8 V, V _{IH} = 2.0 V	1, 2, 3	All		0.4	V
Output high voltage	VOH	V _{CC} = 4.5 V, I _{OH} = -4.0 mA V _{IL} = 0.8 V, V _{IH} = 2.0 V	1, 2, 3	All	2.4		V
Output short-circuit current 1/	los	$V_{CC} = 5.5 \text{ V}, V_{O} = 0 \text{ V}$	1, 2, 3	All	-20	-110	mA
Off-state output high current	l _{HZ}	V _{CC} = 5.5 V, V _O = 2.4 V	1, 2, 3	All		+20	μA
Off-state output low current	l _{LZ}	V _{CC} = 5.5 V, V _O = 0.4 V	1, 2, 3	All	-20		μA
Operating supply current	lcc	outputs open, f = 10 MHz, V _{CC} = 5.5 V, all inputs 0.0 V to 3.0 V	1, 2, 3	All		90	mA
Input capacitance	C _{IN}	V _{IN} = 0 V, f = 1.0 MHz, T _A = +25° C, see 4.3.1c	4	All		7.0	pF
Output capacitance	COUT	V _{OUT} = 0 V, f = 1.0 MHz, T _A = +25° C, see 4.3.1c	4	All		7.0	pF
Functional tests		See 4.3.1d	7, 8A, 8B	All			
Shift in rate	f _{IN}	See figures 2 - 8 as	9, 10, 11	01, 05		10	_ MHz
		applicable <u>2</u> /		02, 06		15	_
				03. 07		25	

See footnotes at end of table.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 5

04, 08

Test	Symbol	Conditions Group A		Device	Lim	its	Unit
		-55° C \leq T _C \leq +125 $^{\circ}$ C substituting V _{CC} = 4.5 V to 5.5 V unless otherwise specified	subgroups	types	Min	Max	
Shift in to input	t _{IRL}	See figures 2 - 8 as applicable <u>2/</u> 9, 10, 11	9, 10, 11	01, 05		40	ns
ready low 3/				02, 06		35	
				03, 07		21	_
				04, 08		18	
Shift in to input	t _{IRH}		9, 10, 11	01, 05		45	ns
ready high 3/				02, 06		40	_
				03, 07		28	_
		-		04, 08		20	
Shift out rate	f _{OUT}		9, 10, 11	01, 05		10	_ MH
				02, 06		15	_
				03, 07		25	
		-		04, 08		35	
Shift out to output ready low 3/	t _{ORL}		9, 10, 11	01, 05		40	ns
ready low <u>s</u> /				02, 06		35	
				03, 07		19	
		-		04, 08		18	
Shift out to output ready high 3/	t _{ORH}		9, 10, 11	01, 05		55	ns
ready mgm <u>o</u> /				02, 06		40	_
				03, 07		34	_
				04, 08		20	
Output data hold (previous word)	^t ODH		9, 10, 11	All	5.0		ns
Output data shift (next word) 4/	t _{ODS}		9, 10, 11	01, 02, 05, 06		55	ns —
				03, 07		35	
				04, 08		25	

See footnotes at end of table.

	0175		
STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 6

Test	Symbol	Conditions -55° C \leq T _C \leq +125 $^{\circ}$ C V _{CC} = 4.5 V to 5.5 V unless otherwise specified	Group A subgroups	Device types	<u>Lim</u> Min	Max	Unit
Data throughput or	t _{PT}	See figures 2 - 8 as	9, 10, 11	01, 02 05, 06		65	ns
"fall through ["] <u>4</u> /		applicable <u>2</u> /		03, 07		40	_
			-	04, 08		28	-
MASTER RESET to OR low	tMRORL		9, 10, 11	01, 05 02, 03		40	ns
			0.40.44	06, 07		35	_
				04, 08		28	+
MASTER RESET to IR high	^t MRIRH	9, 10, 11	9, 10, 11	01, 05 02, 03 06, 07		35	_ ns
				04, 08		28	
MASTER RESET to data		9, 10, 11	01, 05		40	ns	
output low	WIING			02, 06		35	_
				03, 07		25	
				04, 08		20	
Ou <u>tp</u> ut valid from OE low	t _{OOE}		9, 10, 11	_01		35	_ ns
OL IOW				02		30	_
				_03		20	_
				04		15	
Input ready pulse high <u>4</u> / <u>5</u> /	t _{IPH}		9, 10, 11	01,02,03 05,06,07	11		ns
				04, 08	9.0		
Output <u>hig</u> h impedance from OE high <u>4</u> / <u>5</u> /	t _{HZOE}		9, 10, 11	_01		30	_ ns
nom or mgn ± v			02		25	_	
				_03		15	_
				04		12	_
Output ready pulse high 4/5/	t _{OPH}		9, 10, 11	01,02,03 05,06,07	11		ns
				04, 08	9.0		

See footnotes at end of table.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 7

Test	Symbol	Conditions	Group A	Device	Limi	ts	Unit
	-	-55° C ≤ T _C ≤ +125° C V _{CC} = 4.5 V to 5.5 V unless otherwise specified	subgroups	types	Min	Max	
Shift in high time 3/	^t SIH	See figures 2 - 8 as	9, 10, 11	01, 02 05, 06	20		ns
		applicable <u>2</u> /		03, 07	11		
				04, 08	9.0		
Shift in low time	t _{SIL}		9, 10, 11	01, 05	30		ns
				02, 06	25		_
				03, 07	24		_
				04, 08	17		
Input data setup time	t _{IDS}		9, 10, 11	All	0		ns
Input data hold time	t _{IDH}		9, 10, 11	01, 05	40		ns
				02, 06	30		
				03, 07	20		_
				04, 08	15		
Shift out high time 3/	t _{SOH}		9, 10, 11	01, 02 05, 06	20		ns
				03, 07	11		_
				04, 08 01, 02	9.0		
Shift out low time	t _{SOL}		9, 10, 11	05, 06	25		ns
		<u>03. 0</u>	03, 07	24		_	
				04, 08	17		
MASTER RESET pulse width	t _{MRW}		9, 10, 11	01, 05	30		ns
				02,03,04 06,07,08	25		
MASTER RESET pulse to SI	t _{MRS}		9, 10, 11	01, 05	35		_ ns
				02, 06	25		
				03, 04 07, 08	10		

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 8

TABLE	I. Electrical performance characte	eristics - Contin	ued.			
Symbol	Conditions	Group A	Device	Limit	ts	Unit
	-55° C ≤ T _C ≤ +125° C V _{CC} = 4.5 V to 5.5 V unless otherwise specified	subgroups	types	Min	Max	
t _{SIR}	See figures 2 - 8 as	9, 10, 11	01,02,03 05,06,07	5.0		ns
	applicable <u>s</u>		04, 08	3.0		
t _{HIR}		9, 10, 11	01, 02 05, 06	30		_ ns
			03, 07	20		
			04, 08	15		
t _{SOR}		9, 10, 11	All	0		ns
	Symbol tSIR tHIR	$ \begin{array}{c} \text{Symbol} & \text{Conditions} \\ -55^{\circ}\text{C} \leq T_{\text{C}} \leq +125^{\circ}\text{C} \\ \text{V}_{\text{CC}} = 4.5 \text{ V to } 5.5 \text{ V} \\ \text{unless otherwise specified} \\ \\ \text{t}_{\text{SIR}} & \text{See figures } 2 - 8 \text{ as} \\ \text{applicable } \underline{2}/ \\ \\ \text{t}_{\text{HIR}} & \\ \\ \end{array} $		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

^{1/} Not more than one output should be shorted at a time. Duration of the short-circuit condition should not exceed one second. This parameter may not be tested, but shall be guaranteed to the limits specified in table I.

5/	May not be teste	d, but shall be qu	aranteed to the	limits specified in table I.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS		REVISION LEVEL	SHEET
COLUMBUS, OHIO 43216-5000		A	9

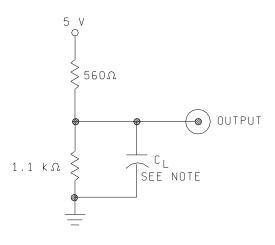
 ^{2/} AC measurements assume signal transition times of 5 ns or less, timing reference levels of 1.5 V, input pulse levels of 0 V to 3.0 V and output loading of 30 pF load capacitance. Output timing reference is 1.5 V.
 3/ Since these devices are very high speed, care must be exercised in the design of the hardware and timing utilized in the design. Device grounding and decoupling are crucial to correct operation as the device will respond to very small glitches due to long reflective lines, high capacitances or poor supply decoupling and grounding. A monolithic ceramic capacitor of 0.1 µF directly between V_{CC} and GND with very short lead lengths is recommended. 4/ This parameter applies to devices communicating with each other in a cascaded mode.

Device types	All	
Case outlines	E	2
Terminal number	Terminal s	ymbol
1 2 3 4 5 6 7	OE/NC 1/ IR SI D ₀ D ₁ D ₂ D ₃	OE/NC 1/ IR NC SI D ₀ D ₁ D ₂
8 9	GND MR	NC D ₃
10 11 12	Q ₃ Q ₂ Q ₁	GND MR Q ₃
13	Q ₀	NC
14 15 16	OR SO V _{CC}	Q ₂ Q ₁ Q ₀
17 18 19 20	 	OR NC SO V _{CC}

 $[\]underline{1}$ / For device types 05 - 08, $\overline{\text{OE}}$ will be replaced by NC.

FIGURE 1. Terminal connections.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS		REVISION LEVEL	SHEET
COLUMBUS, OHIO 43216-5000		A	10



NOTE: $C_L = 30 \text{ pF}$ and includes jig and scope capacitance.

FIGURE 2. Output load circuit.

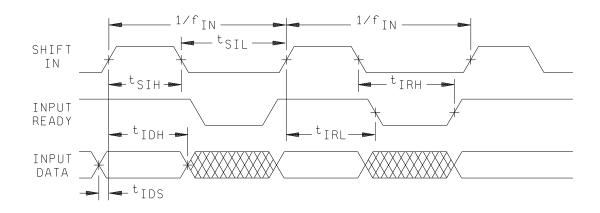
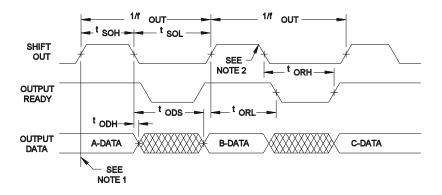


FIGURE 3. Input timing diagram.

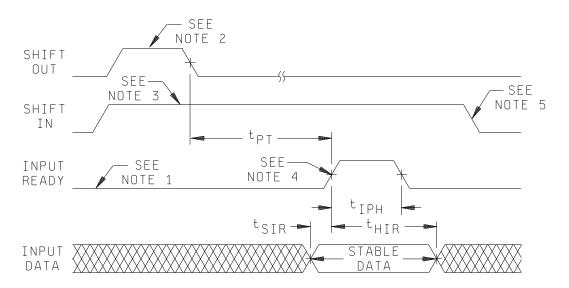
STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS		REVISION LEVEL	SHEET
COLUMBUS, OHIO 43216-5000		A	11



NOTES:

- 1. This data is loaded consecutively, A, B, C.
- 2. Data is shifted out when SHIFT OUT makes a high to low transition.

FIGURE 4. Output timing diagram.

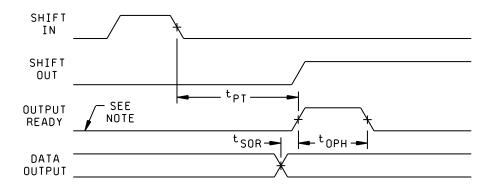


NOTES:

- FIFO is initially full.
 SHIFT OUT pulse is applied.
 SHIFT IN is held high.
- 4. As soon as input ready becomes high the input data is loaded into the FIFO.
- 5. The write pointer is incremented.

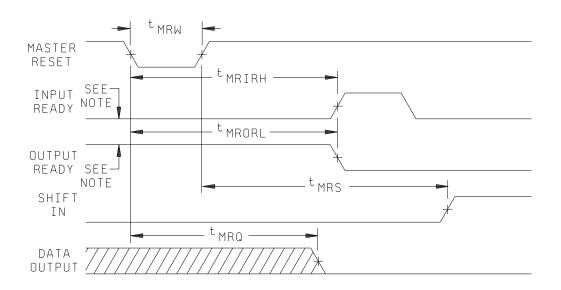
FIGURE 5. t_{IPH} , t_{HIR} , and t_{SIR} timing diagram.

STANDARD MICROCIRCUIT DRAWING	SIZE A		5962-89523
DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000		REVISION LEVEL A	SHEET 12



NOTE: FIFO initially empty.

FIGURE 6. $\underline{t_{PT}}$ and $\underline{t_{OPH}}$ timing diagram.



NOTE: Worst case, FIFO initially full.

FIGURE 7. MASTER RESET timing.

STANDARD MICROCIRCUIT DRAWING DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000	SIZE A		5962-89523
		REVISION LEVEL A	SHEET 13

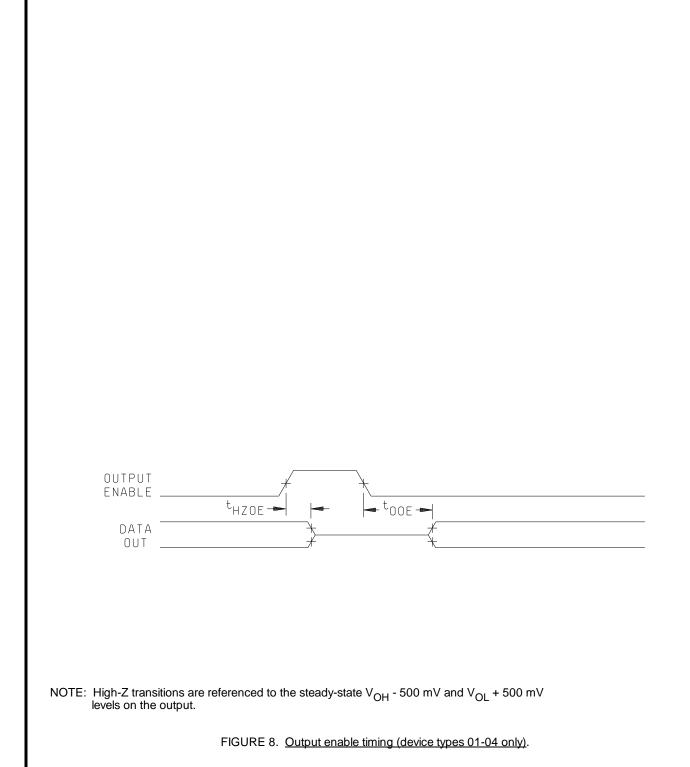


TABLE II. Electrical test requirements. 1/2/3/4/

MIL-STD-883 test requirements	Subgroups (in accordance with method 5005, table I)
Interim electrical parameters (method 5004)	
Final electrical test parameters (method 5004)	1*, 2, 3, 7*, 8A, 8B, 9, 10, 11
Group A test requirements (method 5005)	1, 2, 3, 4**, 7,8A, 8B, 9, 10, 11
Groups C and D end-point electrical parameters (method 5005)	1, 2, 3, 7, 8A, 8B

- 1/ * Indicates PDA applies to subgroups 1 and 7.
 2/ Any or all subgroups may be combined when using high-speed testers.
 3/ ** See 4.3.1c.
 4/ As a minimum, subgroups 7 and 8 shall consist of verifying the determinant of the subgroups 1 and 2 and 3 and 3
- the data pattern.

STANDARD MICROCIRCUIT DRAWING DEFENSE SUPPLY CENTER COLUMBUS COLUMBUS, OHIO 43216-5000	SIZE A		5962-89523
		REVISION LEVEL A	SHEET 15

4.3.2 Groups C and D inspections.

- a. End-point electrical parameters shall be as specified in table II herein.
- b. Steady-state life test conditions, method 1005 of MIL-STD-883.
 - (1) Test condition C or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.
 - (2) $T_A = +125^{\circ} C$, minimum.
 - (3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

5. PACKAGING

5.1 <u>Packaging requirements</u>. The requirements for packaging shall be in accordance with MIL-STD-883 (see 3.1 herein).

6. NOTES

- 6.1 <u>Intended use</u>. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.
- 6.2 <u>Replaceability</u>. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.
- 6.3 <u>Configuration control of SMD's</u>. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-973 using DD Form 1692, Engineering Change Proposal.
- 6.4 <u>Record of users</u>. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DESC-EC, telephone (513) 296-6047.
- 6.5 <u>Comments</u>. Comments on this drawing should be directed to DESC-EC, Dayton, Ohio 45444-5270, or telephone (513) 296-5377.
- 6.6 <u>Approved sources of supply</u>. Approved sources of supply are listed in MIL-BUL-103. The vendors listed in MIL-BUL-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-EC.

STANDARD		
MICROCIRCUIT DRAWING		
DEFENSE SUPPLY CENTER COLUMBUS		
COLUMBUS, OHIO 43216-5000		

SIZE A		5962-89523
	REVISION LEVEL A	SHEET 16

STANDARDIZED MILITARY DRAWING SOURCE APPROVAL BULLETIN

DATE: 94-04-29

Approved sources of supply for SMD 5962-89523 are listed below for immediate acquisition only and shall be added to MIL-BUL-103 during the next revision. MIL-BUL-103 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DESC-EC. This bulletin is superseded by the next dated revision of MIL-BUL-103.

	1	- ₁
Military drawing part number	Vendor CAGE number	Vendor similar part number <u>1</u> /
5962-8952301EX	61772 65786	IDT72403L10DB CY7C403-10DMB
5962-89523012X	<u>2</u> / 65786	IDT72403L10LB CY7C403-10LMB
5962-8952302EX	61772 65786	IDT72403L15DB CY7C403-15DMB
5962-89523022X	<u>2</u> / 65786	IDT72403L15LB CY7C403-15LMB
5962-8952303EX	61772	IDT72403L25DB
5962-89523032X	<u>2</u> /	IDT72403L25LB
5962-8952304EX	61772	IDT72403L35DB
5962-89523042X	<u>2</u> /	IDT72403L35LB
5962-8952305EX	61772 65786	IDT72401L10DB CY7C401-10DMB
5962-89523052X	65786	CY7C401-10LMB
5962-8952306EX	61772 65786	IDT72401L15DMB CY7C401-15DMB
5962-89523062X	65786	CY7C401-15LMB
5962-8952307EX	61772	IDT72401L25DB
5962-8952308EX	61772	IDT72401L35DB

^{1/} Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

^{2/} Not available from an approved source.

STANDARDIZED MILITARY DRAWING SOURCE APPROVAL BULLETIN - continued.

Vendor CAGE Vendor name number and address

Integrated Device Technology, Incorporated 3236 Scott Boulevard 61772

Santa Clara, CA 95054-8015

65786

Cypress Semiconductor Corporation 3901 North First Street San Jose, CA 95134-1599

The information contained herein is disseminated for convenience only and the Government assumes no liability whatsoever for any inaccuracies in this information bulletin.